

U.S. Application Serial No. 09/941,237
Amendment and Response Dated June 4, 2004
In Reply to Office Action Dated March 23, 2004

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims **1-32** (canceled)

33. (previously presented) A method of manufacturing an orthodontic appliance comprising:

producing digital data defining a three-dimensional surface of an orthodontic appliance;

manufacturing the orthodontic appliance based on the digital data by a process that includes depositing material, in accordance with the digital data, layer by layer in a plurality of layers each constituting a two-dimensional cross section of a solid object having an edge defined by data of the three-dimensional surface, the layers being stacked in a third dimension to form the solid object having a three-dimensional surface defined by the data;

the solid object having the three-dimensional surface is an orthodontic appliance having a surface defined by the three-dimensional surface of the object.

Claims **34-36** (canceled)

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37. (currently amended) ~~The method of claim 36 wherein:~~

A method of manufacturing an orthodontic appliance comprising:
producing digital data defining a three-dimensional surface of an orthodontic
appliance;

manufacturing the orthodontic appliance based on the digital data by a process that
includes depositing material, in accordance with the digital data, layer by layer in a plurality of layers
each constituting a two-dimensional cross section of a solid object having an edge defined by data
of the three-dimensional surface, the layers being stacked in a third dimension to form the solid
object having a three-dimensional surface defined by the data;

the material being selectively formed in each layer of a first portion of material that
is removable chemically, thermally or mechanically, and a second portion of material that remains
after removal of the first portion to form a pattern having the three-dimensional surface thereon in
the shape of a custom orthodontic appliance or component thereof;

the material [[is]] including wax of at least two types, one forming said first portion
and one forming said second portion, and the deposition thereof to selectively form the layers
includes including the selective depositing of the portions of material in layers to define a cross
section of the object with said second portion forming the pattern and being at least partially
surrounded by a removable medium formed of said first portion; and

the manufacturing of the orthodontic appliance including removing said first portion
to form the pattern of the second portion and using the pattern in a manufacturing step to impart the
shape to the orthodontic appliance, thereby producing the orthodontic appliance having a shape
defined by the data.

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Claims **38-55** (canceled)

56. (previously presented) The method of claim **33** wherein:
the appliance is an orthodontic bracket.

Claims **57-62** (canceled)